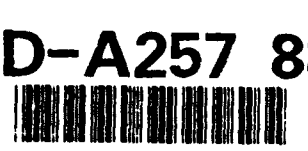

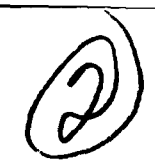

NAVAL POSTGRADUATE SCHOOL

Monterey, California

THESIS

THE OBSTACLES ENCOUNTERED
IN THE DEVELOPMENT OF
SMMS: A CASE STUDY

by
David G. Broadwater

June 1992

Thesis Advisor: William J. Haga

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Automated data processing for non-tactical applications afloat was first implemented on large platforms with the SNAP I system. This system provided excellent inventory management, financial and accounting service in the punch card and magnetic tape environment in which it was introduced. Subsequent modifications have been made to take advantage of changing technologies and increased user expectations.

Automated data processing on smaller platforms was implemented with the SNAP II program. While serving many of the same functions this implementation was designed separately and for a different user group.

The SMMS program discussed here in a case format was an attempt to consolidate and enhance the two SNAP programs.

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The Obstacles Encountered
in the Development of
SMMS: A Case Study

by

David G. Broadwater
Lieutenant, United States Navy
A.B., Dartmouth College , 1969

Submitted in partial fulfillment
of the requirements for the degree of

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Author: _____
David G. Broadwater

Approved by: _____
William J. Haga, Thesis Advisor

_____
Moshe Zviran, Second Reader

_____
David R. Whipple, Chairman
Department of Administrative Sciences

ABSTRACT

Automated data processing for non-tactical applications afloat was first implemented on large platforms with the SNAP I system. This system provided excellent inventory management, financial and accounting service in the punch card and magnetic tape environment in which it was introduced. Subsequent modifications have been made to take advantage of changing technologies and increased user expectations.

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The SMMS program discussed here in a case format was an attempt to consolidate and enhance the two SNAP programs.

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I. INTRODUCTION

A. THE TOPIC

This thesis will point up some of the many and often conflicting influences that impact on management information system and programming decisions in the naval environment. These trends and pressures are presented in a case study setting with enough background material to allow the reader to grasp the complexity of the situation. Rather than espousing one right answer the reader should come away with personal solutions that will aide them in confronting similar projects.

B. BACKGROUND

The first automated non-tactical systems to go to sea were designed to provide supply and financial functions for auxiliary ships. These systems kept track of material carried on board but belonging to an ashore activity. They also provided record keeping for the ship's own financial and supply requirements. This first system was called SNAP I for Shipboard Non-tactical Automated Data Processing. The system ran on a mainframe computer in batch processing mode. The initial system used punch cards and reports and financial data tended to be about a week behind the actual transactions. Subsequent upgrades in hardware and software have moved

some ships and shore stations to the current version known as Shipboard Uniform Automated Data Processing System-Real Time (SUADPS RT)(PRC, 1991) or SNAP I release three. The real time in the name implies that the processing is almost instantaneous after the transaction is input to the system. Although some might argue that the system only simulates a real time mode, since transactions update copies of data files on a real time basis. Actual updates of the master financial and inventory files are modified in batch updates on a daily basis. This situation is somewhat analogous to a deposit in an automatic teller machine where your balance is shown with the deposit added but a lower balance will be shown if the machine is immediately rechecked. The new higher balance will only show again after the deposit envelope has been opened and the master record updated.

Subsequent to SNAP I, SNAP II was designed to provide the financial and inventory record keeping portion of SNAP I that applied to smaller ships onboard spares inventory and consumable items. In SNAP I the similar section was called own ships use. SNAP II was designed for ships using micro or mini computer hardware, afloat accounting and far fewer staff people to run it. The financial section of the small ships system was simpler since these ships were only required to maintain internal budgets,

operating target (OPTAR) logs and end use stock records; and did not require accounts for wholesale and retail stocks and costs for tended vessels. These financial record systems also represent simplified afloat accounting rather than the more complex shore station system used in SNAP I. This more complex shore accounting used in the SNAP I systems stems from the fact that the majority of the inventory controlled actually belongs to the Navy Stock Fund and is not the property of the ship.

The two SNAP systems perform many of the same functions with regard to internal ships supply functions. Despite the seeming functional similarities, each system was developed separately for different hardware configurations. Designing to these hardware differences yielded systems with little in common with regard to how they "look and feel" from the human interaction standpoint. For example, the Storekeeper (SK) rating has had two sets of questions in the advancement exams representing how functions are symbolized and performed on the two systems. Of concern from a manpower assignment perspective is that a junior SK is much more likely to have hands-on training in the SNAP II system but he or she is apt to be subsequently asked to supervise on a SNAP I afloat platform or shore activity without any real background. This requirement for two separate training pipelines has been a motivator for standardizing as many functions

as possible between the two systems. The possible cost savings from reducing the number of systems being maintained is also a motivator in funding constrained environment of the early 1990s.

The differences between the two SNAP systems are reflected in the parallel organizational structures maintained to supervise them. All surface and submarine type commanders maintain separate internal organizations to provide guidance to supervised activities using each system. The experience sought in staff and the guidance given to subordinate activities varies widely between SNAP I and SNAP II organizations.

C. SOURCES OF INFORMATION

Due to the lack of literature in the area of SNAP I and SNAP II consolidation, the majority of sources of information were personal interviews conducted at Navy Management System Support Office (NAVMASSO) in June of 1991 and follow-up phone calls to NAVMASSO and Naval Supply Systems Command Fleet Support Division (NAVSUP 04D). Further input was obtained from vendor product documentation, articles in current computer periodicals, Navy notices and instruction and

survey data collected from Type Commanders in the Atlantic and Pacific fleets and the Marine Corps by NAVSUP in the fall of 1991.

II. CASE METHODOLOGY

A. CASE STUDY FOR RESEARCH

A case study "investigates a contemporary phenomenon within its real life context; when the boundaries between phenomenon and context are not clearly evident; and multiple sources of evidence are used."(Yin, 1989)

The appropriate subject matter for a good case may be a cutting edge problem not yet faced by many business leaders. Most cases should center on common-place problems routinely faced by managers. (Culliton, n.d.)

A case study attempts to capture a snapshot of an organizational *situation as it unfolds, without imposing experimental controls.* In a case, an observer attempts to see the invisible forces acting in and on an organization through the observable actions of individuals. (Lee, 1986)

B. TYPES OF CASES

Culliton (1973) groups cases into three general types based on the degree of problem specificity. The first and generally the shortest is the specific problem case. These cases are quite specific about the nature of the problem and who has the problem. The second, longer type is the diagnostic case. In these cases fact that someone has a problem is less clear cut. The specifying of the problem and the person or persons having the

problem is more open to interpretation than in the specific problem case. The third type and usually longest is the appraisal case. In this type readers may clearly disagree on whether there is a problem or not. The topic of discussion will include the alternative of not changing anything. "Prognosis may be more important than diagnosis."

Bennett(Davis ,n.d.) takes a somewhat more restrictive view on types of cases. His two categories of cases are both closely related to the specific problem case. The first type is the issue case in which the author presents a problem and the reader develops scenarios to solve it. The second type is the appraisal case where the author describes a management solution used and the reader critics the solution.

Both authors agree that the time span of a case is specific. The span covered should be decided and events happening after the period covered should be excluded. Only in such a limitation can a realistic problem solving situation be created.

C. ADVANTAGES OF TEACHING CASES

Proponents of the case study method of teaching feel that the quality and quantity of material retained by the student is larger when the case method is used. The advantages are attributed to information fallout

phenomena. The fallout results from the students seeing an immediate application of and use for the information received.(Culliton, 1973)

The use of qualitative data and descriptions can be an advantage in the case study method. Descriptions of situations and context can give the reader a greater perception of the nature of real life decision making. Such rich descriptions can stir the readers imagination more readily than bare numerical data.(Miles, 1984)

A case study method teaches the student that there is often more than one viable alternative.(Pascale, 1973) The habits of diagnosing problems, analyzing and evaluating alternatives and developing possible responses have value in their own right.(Harvey, 1988) The case method can also illustrate the influence of political power on decision making.(Lee, 1986)

Skills learned in dealing with the case methodology can be particularly valuable in the information systems arena. The rapid rate of technological change and innovation in the information system area have a continuing impact on organization and management. The deductive skill and insights gained through the use of cases can provide excellent preparation for change.(Benbasat, 1987)

D. DISADVANTAGES OF CASE STUDIES

The use of qualitative data can be a disadvantage of case studies particularly when they are used for research. Qualitative data in case studies tends to be very difficult for a follow on researcher to duplicate and thus verify.(Lee, 1986) Standardized methods of analysis for qualitative data are lacking.(Miles, 1984)

Data collection methods for case studies can be time-consuming and require extensive documentation. Even if abbreviated methods of data collection are use, production of a quality case study is a difficult endeavor. No proven criteria have been developed to determine if an author has the requisite skills to write a quality case study. Yet critics argue that results obtained can only be generalized with extreme care.(Yin, 1989)

III. NON-TACTICAL ADP ENVIRONMENT

A. INTRODUCTION

Traditionally the Navy has separated the automated data processing (ADP) function into two categories, tactical and non-tactical. The Warner amendment to the Brooks act and the paperwork reduction reauthorization act of 1986 both drew a distinction in the equipment covered by the law based on application within the Department of Defense.(McDonough, 1990) Generally ADP applications that were of a tactical nature or part of a weapon system were exempted and thus subject to fewer regulatory guidelines. On the non-tactical side, programs and applications are subject to a different set of standards and require more extensive justification along cost benefit lines.

The net effect of the traditional separation was to have distinct hardware and software developments in the two areas. The people who developed the two types of systems worked at different activities and seemed to have little in common. These separations were heightened by the fact that tactical systems tended to be organic to pieces of hardware and to be either real time or interactive in nature. Non-tactical systems on the other hand originally tended to be based on large mainframe operations and

were batch in nature or else they were stand alone and used largely for word processing.

B. ADP DISTINCTIONS DIMINISHING

In a speech to the September 1991 Navy micro computer conference, the Navy's senior IRM official, Gerald Cann, addressed current trends in Navy ADP.(Green, 1991) He feels that the old differences between tactical and non-tactical hardware and software are diminishing. In parallel with this trend, the separation in the procurement methods used is also decreasing.

Custom made software for use with tactical systems is being supplanted by off-the-shelf packages. This trend should allow the procurement system to reduce or eliminate the distinctions which have confused procurement issues dealing with tactical and non-tactical technology. Cann also strongly believes that the acquisition cycle for computers should be reduced to an 18 month turn around.(Green, 1991)

Robert Green, director of information resources interoperability for the Navy's Information Technology Acquisition Center gives further insight into the changes taking place. In 1991, the data processing systems in ships tend to support the separate activities and the groups supporting those activities.(Robb, 1991) If a part fails in a tactical system the request for a

spare part would first go to the division maintenance people for a check of the ready service spares bins. If it is not found the search would be extended to supply department stocks. The request would have to be entered into a separate supply system. Even if the part is found onboard, the maintenance action performed must be entered into a separate maintenance tracking system. If the part is not found and the equipment is non-functional, a casualty reporting system will become involved. Mr Green sees an integrated environment coming where the failure of the part and the required responses can be largely automated without repeated intervention in the form of duplicate data entry into parallel systems.(Robb, 1991)

The integration of tactical and non-tactical networks is demanding a new level of cooperation from two systems commands, NAVSEA (Naval Sea Systems Command) and SPAWAR (Space and Naval Warfare Systems Command). NAVSEA previously dealt mainly with problems internal to the ship while SPAWAR's main emphasis was on problems external to the ship.(Robb, 1991)

Yet another perspective can be gained by looking at the changes taking place in the way the Navy buys ADP equipment. Captain McQueen, commanding officer of Information Technology Acquisition Center (ITAC) recently gave his perspective.(Robb, 1991) The trend in industry is to lower

the barriers between telecommunications and computers. It would be difficult to say whether the move toward the picture phone and other broadband communications or the trend toward multimedia and distributed computing is the main driver but distinctions are blurring. ITAC will be buying both base telecommunications systems and information processing systems.(Robb, 1991)

The ITAC staff will be buying the $40 million Tactical Advanced Computer (TAC-3) procurement as well as the SNAP-3 procurement, now in its early planning stages(Robb, 1991).

C. PROGRAMMING LANGUAGES

In 1987 the Defense Department issued a Directive replacing its earlier 1976 Instruction on Higher Order Languages (HOL) in the Department of Defense. The directive provides policy guideline for computer programming languages used in both development and support of DoD software(DoD 3405.1, 1987).

As in personal computers and other non-government business applications there is a tradeoff between changing to the latest tool and the large capital investment in an already acquired inventory of software. The directive attempts to balance these opposing forces while limiting the overall number of HOLs that are allowed. The main thrust of the limitation

is to support the goal of transition to the use of Ada(MIL-STD-1815A, 1983) for Department of Defense software development(DoD 3405.1, 1987).

In support of the transition goal a list of the only acceptable HOLs is included. These authorized HOLs can be used to complete major projects that have passed milestone II(DoD 5000.1, 1986). In these and other completed projects the other languages can be used subsequently for software maintenance but not for major upgrades. Other authorized HOLs may also be authorized for projects where they have a demonstrable advantage over Ada(DoD 3405.1, 1987). This advantage should be in terms of life-cycle cost savings and fulfillment of system requirements.

The Directive states preference can be given to off-the-shelf software and advanced software technology. However, due consideration must have been given to the future impact on competition for software and hardware(DoD 3405.1, 1987). Use of the new technology must not set up future sole source buy situations unfavorable to the government.

More recent events seem to reinforce the stand taken by DoD on Ada. In 1991 Paul Strassmann, director of defense information, asked the DOD's Information Technology Policy Board to evaluate Ada and C++ which is not on the list of approved HOLs(DoD 3405.1,1987) and recommend whether DOD should use C++ for some projects. Five contractors prepared reports with their efforts coordinated by Lloyd K. Mosemann, deputy assistant

secretary of the Air Force for communications, computers and logistics(Schwartz, 1991). No significant reasons were found to "waive the Ada requirement" in favor of C++(Schwartz, 1991). One of the reporting contractors TRW Inc. found Ada's score on a range of software engineering issues to be over 20% higher than the score tabulated for C++. This same report recommended that waivers for the use of C++ at least through 1993 only be granted for conversion of software originally written in C(Schwartz, 1991).

D. TRENDS

The overall trend in shipboard computing is toward consolidation of systems. The smaller number of hardware and software systems that need to be supported allows economies in staffing, lower software maintenance costs, and fewer repair part requirements.

DoD is attempting to consolidate and standardize programming languages. Streamlining the programming of new systems by reuse of previously developed code should save money. Ada was developed with reuse of code segments as a basic premise. The use of Ada is now being expanded from tactical applications into all shipboard applications.

IV. SNAP CONFIGURATION MANAGEMENT

A. OBJECTIVES

The stated objectives of SNAP configuration management were:

a. To assist SNAP program management in achieving the most cost-effective performance, operational efficiency, implementation schedule, logistic support and readiness.

b. To attain maximum efficiency in the management of engineering changes.

c. To achieve the following goals at a system level:

(1) To ensure that verified configuration technical documentation is available when needed.

(2) To maintain hardware and software standardization and compatibility.

(3) To ensure that total performance, costs, and schedule impact of change proposals, deviations, and waivers are known at the time of approval.

(4) To ensure that all hardware and software configurations are defined and that pertinent physical and functional interfaces between systems, equipments, and software programs are documented and controlled.(SPAWAR 4130.12, 1986)

B. ORGANIZATION

The same instruction established a system of boards and committees to carry out these stated objectives(SPAWAR 4130.12, 1986). The SNAP Joint Configuration Control Boards (JCCBs) were chaired by the SPAWAR

SNAP Program Directorate or designee, who had ultimate authority for it's decisions. The JCCBs also have permanent members representing the Commander NAVSEASYSCOM and Commanding Officer Navy Management System Support Office (NAVMASSO). The SNAP I JCCB had additional permanent members representing Commander, Naval Air Systems Command (NAVAIR) to interface on matters relating to Naval Air Logistics Command Management Information System (NALCOMIS), Commander, Naval Data Automation Command (NAVDAC) for Type Commander Headquarters Automated Information System (THAIS) matters, and a non-voting member from the Automated Data Processing Selection Office (ADPSO) to advise on SNAP I contract matters. The JCCBs further had Ad Hoc members representing SNAP Functional Managers, Chief of Naval Education and Training (CNET), and the Fleet Commanders in Chief. The SNAP I JCCB also had an Ad Hoc member representing the Commandant, Marine Corps.

Subordinate to the JCCB were the SNAP Hardware Configuration Control Committees (HCCCs). The Chairman of these committees and final arbiter on any matters not requiring referral to the JCCBs was Commander NAVSEASYSCOM or his designee. SPAWAR as the SNAP program manager was a permanent member of the HCCCs and had the authority to refer proposals to the JCCBs for decision. The other permanent members

were representatives of: NAVMASSO fleet Central Design Agency and Naval Sea Combat Systems Engineering Station (NAVSEACOMBATSYSENGSTA) as In Service Engineering Activity (ISEA). The SNAP I HCCC also had permanent members representing NAVAIR the NALCOMIS Program Manager and a non-voting representative of ADPSO to answer questions on the AN/UYK-65 hardware contract. The Ad Hoc members of the HCCCs were representatives of at least the following: Naval Supply Systems Command (NAVSUP) to insure proper coordination with its inventory control points, CNET as SNAP training interface and Fleet Commanders in Chief as user representatives. SNAP I HCCC also had Ad Hoc members representing the Commandant, Marine Corps as a user and NAVDAC for THAIS interface.

Also subordinate to the JCCBs were the SNAP Software Configuration Control Committees (SCCCs). The Chairman of these committees and final arbiter on any matters not requiring referral to the JCCBs was Commanding Officer Navy Management Support Office (NAVMASSO) or his designee. SPAWAR as the SNAP program manager was a permanent member of the SCCCs and again had authority to refer proposals to the JCCBs for decision. In a swapping of roles from the HCCCs another permanent member was a representative of NAVSEA to evaluate the potential impacts of changes on hardware and firmware.

NAVSEACOMBATSYSENGSTA as ISEA was again a permanent member. The SNAP I SCCC also had permanent members representing NAVAIR the NALCOMIS Program Manager, Navy Regional Data Automation Center Norfolk representing THAIS issues and a non-voting representative of ADPSO to answer questions on SNAP I contract issues. The Ad Hoc members of the SCCCs were representatives of at least the following: Commander Naval Supply Systems Command (COMNAVSUPSYSCOM) as SNAP Functional Manager, CNET as SNAP training interface and Fleet Commanders in Chief as user representatives. SNAP I SCCC also had Ad Hoc members representing the Commandant, Marine Corps as a user.

C. RESPONSIBILITIES

The JCCBs were responsible for overall policy guidance on prioritization of change actions, reporting requirements, and general management of the program. They were also responsible for announcing their meetings at least 45 days in advance to allow the subordinate committees to publish and distribute agenda items 30 days before the meetings. Issues requiring new funding, schedule changes or not limited to Hardware or Software areas as well as after the fact reviews of the decisions of the SCCCs and the HCCCs also were the JCCBs responsibility.

The HCCCs were responsible for hardware and firmware configuration control, record keeping, auditing of installations and monitoring of contractor configuration management. They also had to evaluate integrated logistics support elements and funding levels before implementing configuration changes. Finally they had to organize and research and provide recommendations for issues that were to be referred to the JCCBs for resolution.

The SCCCs' responsibilities included deciding all software change issues that don't effect funding levels, scheduling or hardware. They also develop procedures, conduct audits, perform configuration status accounting and historical record keeping. Finally they develop schedules and priorities for their area of responsibility.

V. SNAP MATERIAL MANAGEMENT SYSTEM CASE STUDY

A. CASE SITUATION[1]

In August 1989 SMMS project manager Margaret Winston at NAVMASSO in Norfolk Virginia assigned Bobby Jenkins and three other analysts to start data modeling and analysis of the SNAP Material Management System (SMMS) project. This initial effort was centered around the Information Engineering Systems Corporation (IESC) methodology and was assisted by one of a series of rotating contractor personnel.

In keeping with the IESC format, emphasis was placed on data not procedures and business knowledge rather than technology. The IESC CASE tool focuses on modeling the business process using Finkelstein's(Keyes, 1992) method of breaking activities down into fourth and fifth business normal form. The data is divided and then grouped into entities which represent a table in a relational data base in fifth normal form. All possible relations between data elements are defined in one of these tables. This separation of data into fifth normal form permits a

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[1]This is a preliminary version of a case study which has not yet been approved for public release. It is not for republication or quotation.

segregation of business detail into objects. These objects are intended to group data and the associated relationships and interactions between data(Keyes, 1992). In support of this task the IESC CASE tool generates numerous reports including Entity Report, Entity Purpose Report, Association Report, Subject data base implementation priorities, and Attribute Report.

Over the ten months of the modeling effort, Margaret's group defined and categorized increasingly complex entity models until three hundred and fifty eight active entities had been defined. The condensed version of the first four reports showing only active entities had grown to one hundred and seventy pages by mid 1991.

In the twelve months of the IESC contract, twelve different consultants were assigned. One of the first IESC consultants with some non-specified informal input from senior officers in the Washington arena, initially identified the following twenty five business functional areas.

- Transaction Access
- Organization Identification
- Organization Categorization
- Address
- Person
- Skill

- Item Identification
- Contract
- Customer Need
- Performance Monitoring
- Priority Management
- Requisition Status
- Supply Requirement
- Supply Requisition
- Item Handling
- Location
- Requisition Receipt
- Item Configuration
- Organization Allowance Level
- Organization Item Management
- Inventory Physical Distribution
- Item Management
- Fund Accounting
- Fund Authorization
- Fleet Freight (NAVMASSO, 1991)

At a more tactical level the business functional areas were grouped into four functional areas and assigned to the four analysts at NAVMASSO

for development of entities within areas. Financial was first, consolidating accounting practices under ashore and afloat rules. Second were security concerns. Requirements and inventory control were third and fourth respectively. Next, end user input was solicited from seven commands, each one level above actual operational units. Each of these commanders controlled operational units using either SNAP I or SNAP II. Group meetings were scheduled and held on both co- -ts to identify the basic entities which in the IESC scheme would be the low level objects and the logic that acts on those objects. In addition to basic entities, the meetings were to develop attributes and relationships of entities as well as edit rules and display input items. Between meetings, the NAVMASSO analysts and IESC consultant used the IESC computer aided software engineering tool to model the data for review at the next meeting.

By the end of the second cycle of meetings Bobby and the other NAVMASSO analysts had noticed some general differences in viewpoint in representatives of Atlantic and Pacific fleets. The Atlantic fleet representatives seemed to expect a greater amount of top-down supervision and less flexibility in the system at the operational level. They also expected reports to higher authority to contain more detail. Finally, the East coast representatives modeled a system where more help was extended down the chain in terms of outside organizations providing supplemental

parts tracking services and similar functions. The analysts also noticed that representatives of the submarine community saw the testing records and certification of nuclear related parts as a top concern while aviators seemed more concerned with tracking the return of equipments for repair.

Successive meetings of the user groups encountered weeks of delays due to varying opinions expressed by senior storekeepers and supply officer representatives from various commands and from representatives of the same commands at successive meetings. More than once, these disagreements as to the nature of basic entities to be modeled negated the majority of the work accomplished at a preceding meeting. Disagreements among participants were intensified by the fact that the meetings tended to alternate between coasts with Atlantic fleet participants attending east coast meetings and Pacific fleet representatives attending west coast meetings. Since the Atlantic and Pacific fleets have their own sets of instructions and reporting requirements dealing with shipboard supply procedures, groups from these two fleets tended to have differing views on which reports were required and what procedures were critical and which superfluous. Even more frustrating to the analysts was the fact that even on the same coast the changing representatives from a command would

often vary in their views from meeting to meeting thus causing backtracking and reexamination of completed areas.

Despite these formidable obstacles to progress, the analysts were able to develop cohesive groups of entities in three out of four functional areas by the fall of 1990. Financial was the functional area not completed, possibly due to an inability to resolve the differences between afloat and ashore accounting practices. With this exception, the analysts believed they were ready to evaluate the SMMS model as a whole with the end users. Unfortunately Operation Desert Storm work requirements had almost totally depleted the pool of users who would otherwise do the evaluation and the project went into a holding pattern.

During the delay, the fact that the computer aided software engineering tool in use was centered mainly on data modeling and did not provide support for code generation was reevaluated by the project steering committee. In order to take advantage of potential cost savings in code generation and software maintenance costs, CASE tools with code generation capability were considered. Despite the fact that translation of the work done to date was not guaranteed by the company, the decision was approved by Admiral Moore's committee to use a new CASE tool for the remainder of the project. IESC who had been in on the data modeling work was discharged but four copies of their software were purchased with the

idea that in-house staff could maintain the data model already developed and to aide in translation to the new model. As late as June 1991 only one copy of the software had actually been loaded and had proved of limited utility in the transition process.

Three new integrated CASE tools produced by Oracle were chosen. Oracle's tools define business applications instead of business functional areas as a starting point. The twenty five business functional areas were grouped into nine business applications. The first three of nine applications to be defined and the first to be worked were material id, organization, material procurement. Translation of work completed using the IESC CASE tool to the new Oracle CASE tool has proven difficult at best.

In order to more clearly define fleet requirements Admiral Moore directed COMNAVSUPSYSCOM to survey the fleet user. Due to an imminent transfer by the Captain in charge of sending the survey, an extensive four-part and 200 page questionnaire was hastily sent out to all the users and subsequently reduced in scope to type commanders only. The loose organization and redundant nature of the questions in the survey as well as the length impair its usefulness. The initial impact was to delay any further user input meetings by two to six months pending return and evaluation of survey results.

B. OTHER CONSIDERATIONS

The Oracle CASE tool generates code in a proprietary language SQL Forms rather than Ada. While exceptions to the use of Ada as a programming language in DOD could be obtained, there had been no commitment to use SQL Forms for other non-tactical shipboard applications. SQL Forms was also not listed as one of the higher level languages approved for use by the Department of Defense(DoD 3405.1, 1987). Use of a non-standard language may impede future communications between and integration of shipboard systems.

A separate group of analysts at NAVMASSO was working on a project to reverse engineer half a dozen automated shipboard and shore maintenance tracking programs. These programs have been developed by type commanders and program managers to track maintenance actions on different pieces or types of shipboard equipment. At least one system developed for NAVSEA, the maintenance resource management system (MRMS), has two versions one for SNAP I sites and one for non-SNAP I sites(PRC, 1991). Integration of these programs with other shipboard software has not been a firm requirement. This lack of interoperability may be due to the lack of emphasis and non-availability of technology at the time when the programs were developed. The analysts are attempting to extract and preserve the best parts of each separate system in a

standardized system. Even though this system will need to communicate in some fashion with the supply software no commitment had yet been made to any data model or specific software.

There also non-funded long term goals of eventually including other supply areas as well as shipboard administrative functions in a centralized ships data base(Winston, 1991). While these considerations have not yet received the credibility of being funded their importance may increase with the continued shift toward minimum manning and maximum efficiency of shipboard activities and equipment.

In June 1991, no consideration had been given to a direct linking of the computerized data in the ship's co-ordinated shipboard allowance list with the supply module. Such a link might help insure that the system reflected the latest in ships on board equipment and likewise was not ordering parts for equipment that had been removed in overhauls.

The Oracle vendor estimated that the run time modules needed to run their proprietary software on local area networks (LANs) on ships would run about $150 per copy(Oracle, 1991). The SQL Forms language had no capability to communicate with CD ROM based technology for updating of price, stock number or other data. Due to the decreasing cost and highly portable nature of CD ROM technology, this lack of compatibility may limit future expansion.

Currently, none of the Navy's ashore accounting systems have been certified by the GAO mainly due to the lack of depreciation capability(Eberling, 1991). The data requirements of such a new system were not known in 1991. This lack of guidance could be a major challenge to progress on the financial aspects of SMMS.

SNAP I release 3 (realtime) which had a very rocky start, with problems encountered in its processing of data and giving immediate or realtime updates to data. However, release 3 is starting to gain more acceptance by the pertinent divisions of the user group commands(Paite, 1991). Especially when compared to the work involved and risks inherent with building and installing a totally updated system. Most of the users have been involved in at least one update or system implementation and know that every time a major change is made to a system there are undetected software problems that must be fixed retroactively. In an operational environment such problems with supply software would interfere with the units ability to fix broken equipment and reduce the supply systems credibility. In a worst case, the fix may take long enough to put the whole ship at risk.

At least one user command is advocating the total reappraisal of what functions need to remain afloat and what ones can be brought ashore through a transaction item reporting system(Smith, 1991). Under this

concept, most accounting functions would be moved ashore. In the shore environment, tasks could be civilianized and performed by civil service employees trained in accounting. Even if the jobs were still done by military personnel, they could be specifically trained and have knowledgeable coworkers and a telephone consistently available. Transactions would be reported via electronic means on satellite links. If such a change were to be implemented it would require basic changes in the design of the SMMS system.

C. VIEW FROM THE STEERING COMMITTEE

The shipboard arena is one of the few Navy data processing areas that remains under direct Navy control. Keeping those shipboard systems viable and maintainable in a rapidly changing technological and fiscal environment is the challenge. Any move that appears to be wasteful or smacks of adding unnecessary nice to have items is sure to bring Congressional criticism and possible funding cuts. The Navy is operating in an environment where not even the number of type commanders is guarantied to remain constant but decisions must be made on continuing implementation of the current two SNAP systems as well as the pace and upgrading within those systems. Potential end users vary from an aircraft

carrier with a LAN consisting of over 200 units to small ships with stand alone PCs.

D. YOUR CHARTER

To prepare for the class discussion, adopt the perspective of the head of the Navy's ADP steering committee. Your charter is to implement a strategy to meet the long term non-tactical information processing requirements of Naval afloat and ashore operational units.

VI. TENTATIVE CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

The realities of the way management information projects are budgeted, funded and implemented in the Department of the Navy are not unique. The command structure, billet rotation policies and specialization of functional tasking do give these processes characteristics that are worthy of study.

A careful review and discussion of the case study in chapter 5 should prove a fruitful source of potential pitfalls that face a large organization trying to modernize its data processing capabilities. Some of the pertinent questions that may be raised are:

- What is the proper level of authority to control production and integration of data processing programs?
- Is data modeling a workable and worthwhile activity and if so at what level of the organization should it be accomplished?
- With split responsibility for production, training and maintenance of software can the true return on investment for updating and integrating software be calculated?
- Are CASE tools adequately developed to be cost effective in the Navy software development process?
- If CASE tools are to be used should contracts be written to hold vendors accountable for successful transition from another vendors product? And if written would any vendor bid on them?

- Can a poorly prepared survey do more damage than good?
- Should a CASE tool be utilized that generates code in a proprietary language and requires run-time modules to execute?

B. RECOMMENDATIONS

These recommendations are based on the fact that the funding environment within DOD is constrained. Any project must be able to prove it is cost effective with a relatively short payback period.

- If data modeling is to be done, it should be done at the ship wide level to allow integration of ship wide requirements. This will allow immediate savings in reduction of support for parallel systems.
- New systems developed should utilize object oriented or other designs that allow enough flexibility to readily accept technological advances.

APPENDIX A

This document is the cover letter and edited four sections of the survey sent out by COMNAVSUPSYSCOM to SNAP users.

AUTOVON

IN REPLY REFER TO:

0332
4400
24 MAY 1991

From: Commander, Naval Supply Systems Command
To: Distribution

Subs: SUADPS RELEASE 3 FUNCTIONAL ASSESSMENT

Ref: (a) Functional Policy Council of April 1991

Encl: (1) Afloat Business Systems Applications Comparison
(2) Type Commander SUADPS Functional Evaluation
(3) Type Commander SUADPS Functional Needs Assessment
(4) Type commander SUADPS Reports Critique

I. Pursuant to agreements made during the April 1991 Functional Policy Council, a comprehensive evaluation of SUADPS and SNAP II Supply and Financial Management system strengths and weakness is underway. The observations and recommendations of this study will influence the manner in which NAVSUP will pursue the development of the SNAP Material Management System (SMMS). To assist in this evaluation, a comprehensive review of applications now addressed by SUADPS and a needs assessment of those applications not now included in SUADPS are required.

2. To establish a baseline by which to measure the effectiveness of our current supply management systems, NAVSUP recently developed an afloat business systems applications matrix. This matrix totaled 219 business applications considered necessary for modern afloat supply operations. NAVMASSO compared current versions of SUADPS, SFM, OMMS, NALCOMIS and ILM against this matrix. NAVMASSO's findings, enclosure (I), are forwarded for information. NAVSEA PMS-331 has tasked the MRMS development contractor to likewise compare MRMS functionality against the matrix. The results of that comparison will be forwarded for information under separate cover. Overall, SUADPS was found to include automated routines for only 109 of the 219 business applications.

3. To assess SUADPS effectiveness, a questionnaire, enclosure (2), is forwarded for each business application (109) now included in the current SUADPS release. Your comments on each application will determine whether a function is satisfactory as designed, unsatisfactory and in need of redesign, or a candidate for pierside support or other off-ship methods.

Subj: SNAP II SUPPLY AND FINANCIAL MANAGEMENT SYSTEM FUNCTIONAL ASSESSMENT

4. For each application not now automated in SFM 5.10 (122), a questionnaire, enclosure (3), is also included. Your comments will influence whether this application will be automated in SMMS.

5. Finally, your assistance is requested to evaluate the appropriateness of the reports now included in SUADPS. Your comments on enclosure (4) will influence whether these reports will be continued under SMMS, should be repositioned to a PC MIS environment, or dropped from use.

6. Completing enclosures (2), (3) and (4) will require a thorough insight into he strengths and weaknesses of SNAP II SFM and a comprehensive understanding of how afloat supply officers and staffs now manage their affairs with the help of, and some times in spite of, our afloat business information management systems. Fleet support of this functional assessment is necessary to ensure that SMMS addresses our mutual needs and desires and concentrates on delivering the greatest benefit for our investment.

7. It is requested that enclosures (2), (3) and (4) be completed and returned to NAVSUP 0332 by I5 July 1991.

S. W. Baldwin
Acting
Assistant Commander
Inventory & Systems Integrity

Distribution:
COMSUBLANT (NS)
COMSUBPAC (N5)
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NAVSEA (O4-TD)
NSCS Athens (48)

APPLICATIONS FOUND IN VARIOUS AFLOAT BUSINESS SYSTEMS

APPLICATION	SUADPS	SFM	OMMS	NALCOMIS	ILM
** BUSINESS FUNCTION: ALLOWANCE/TECH DATA					
* SUB FUNCTION: CONFIGURATION MGMT					
BASELINE	N	N	Y	Y	Y
CONFIGURATION CHANGES	N	N	Y	Y	Y
* SUB FUNCTION: TECHNICAL DATA					
TECH MANUALS	N	N	Y	Y	N
COMPONENT CHARACTERISTICS	N	N	Y	N	Y
* SUB FUNCTION: ALLOWANCE					
APL QA	P	N	Y	N	Y
COMPUTATION REVIEW	Y	N	N	Y	Y
FCFBR	N	N	N	N	N
RANGE/DEPTH ANALYSIS	Y	Y	N	Y	Y
LOAD LIST EFFECTIVENESS	Y	N	N	N	N
* SUB FUNCTION: ILO/DECK LOAD SUPPORT					
CHANGE IN-FORCE STRUCTURE	N	N	N	N	N
REPAIR PARTS ANALYSIS	N	N	N	N	Y
CONFIGURATION ANALYSIS	N	N	N	N	Y
TECHNICAL DOCUMENTATION ANALYSIS	N	N	N	N	N
LOAD LIST ANALYSIS	N	N	N	N	Y
LOGISTICS READINESS	N	N	N	N	Y
2M SUPPORT	N	Y	N	N	N

APPLICATIONS FOUND IN VARIOUS AFLOAT BUSINESS SYSTEMS

APPLICATION	CATEGORY	SUADPS	SFM	OMMS	NALCOMIS	ILM
** BUSINESS FUNCTION: BUSINESS OPERATIONS						
* SUB FUNCTION: MATERIAL REQUESTS						
ACCEPT CUSTOMER MATERIAL REQUESTS		Y	Y	N	Y	Y
EDIT MATERIAL REQUESTS		Y	Y	N	Y	Y
PROCESS REQUIREMENTS FOR ISSUE/REFERRAL		Y	Y	N	Y	Y
MONITOR REQUISITION STATUS		Y	Y	N	Y	Y
MODIFY, CANCEL, FOLLOW-UP REQUISITIONS		Y	Y	N	Y	Y
NON-STANDARD MATERIAL REQUESTS		P	Y	N	N	N
RESCREEN		P	N	N	Y	N
CANNIBALIZATIONS/PAYBACKS		N	N	N	Y	N
UNREP PLANNING		Y	N	N	N	N
SERVICE REQUESTS		Y	Y	N	N	N
* SUB FUNCTION: DLR MANAGEMENT						
CARCASS TRACKING		Y	Y	N	Y	N
2M CHECKS/CERTIFICATION		N	N	N	Y	N
* SUB FUNCTION: EXPENDITURES						
MATERIAL DISPOSITION	DEFICIENT MATERIAL	Y	Y	N	Y	Y
MATERIAL DISPOSITION	HAZ WASTE	N	N	N	P	N
MATERIAL DISPOSITION	EXCESS	Y	Y	N	Y	Y
SCRAP		N	N	N	N	N
SURVEY PROCESSING		Y	Y	N	N	N
ROD PROCESSING		N	N	N	N	N
QDR PROCESSING		N	N	N	Y	N
TDR PROCESSING		N	N	N	Y	N
* SUB FUNCTION: EXPEDITING						
ID HOT REQUISITIONS		N	Y	N	Y	Y
ON-LINE MANAGEMENT		Y	Y	Y	Y	Y
HOT REPORTS	CASREP	N	Y	N	N	N
HOT REPORTS	NMCS/PMCS	N	Y	N	Y	N
HOT REPORTS	AWP	N	N	Y	Y	N
HOT REPORTS	WORK STOPPAGE	N	N	N	Y	N
HOT REPORTS	HOT JCN		N	Y	N	YN
HOT REPORTS	SPECIAL PROJECTS	N	Y	N	Y	N
SUB FUNCTION: MOV						
EXTERNAL ICP MOV PROCESSING		Y	Y	N	N	N
INTERNAL MOV PROCESSING		Y	Y	N	N	N

APPLICATIONS FOUND IN VARIOUS AFLOAT BUSINESS SYSTEMS

APPLICATION	CATEGORY	SUADPS	SFM	OMMS	NALCOMIS	ILM
** BUSINESS FUNCTION: CONTROL						
* SUB FUNCTION: CONSTANTS						
SYSTEM CONSTANTS		Y	Y	N	N	Y
VALIDATION TABLES		Y	Y	N	Y	Y
LOCAL CONSTANTS		Y	Y	N	N	Y
COUNTERS		Y	Y	N	N	N
* SUB FUNCTION: SECURITY						
USER ACCESS		Y	Y	N	Y	Y
MAN HOUR ACCOUNTING		N	N	N	N	N
MAN HOUR DATA PER TRANSACTION		N	N	N	N	N
* SUB FUNCTION: ADP OPERATIONS						
BACK/UP		Y	Y	N	Y	N
RECOVERY		Y	Y	N	Y	N
ADP SCHEDULING		Y	Y	N	N	N
SYSTEM CONFIGURATION	MODULE MANAGEMENT	Y	Y	N	N	N
SUB FUNCTION: TRANSACTION RECORDING						
PURGE TO HISTORY		Y	Y	N	P	N
CTL PROCESSING		Y	P	N	N	N

APPLICATIONS FOUND IN VARIOUS AFLOAT BUSINESS SYSTEMS

APPLICATION	CATEGORY	SUADPS	SFM	OMMS	NALCOMIS	ILM
** BUSINESS FUNCTION: EXTERNAL INTER ACES						
* SUB FUNCTION: ON-LINE INTERFACES						
NALCOMIS		Y	N	N	Y	N
OMMS		Y	Y	Y	N	Y
MRMS		Y	N	N	N	N
IMMS		Y	N	N	N	N
UADPS		N	N	N	Y	N
UICP		N	N	N	N	N
SCLSIS		N	N	Y	N	N
APADE		N	N	N	N	N
DEPRA		N	N	N	N	N
DDN		N	N	N	Y	N
PCMT		N	N	N	N	N
ASCC		N	N	N	Y	N
ADM		N	Y	N	N	N
MSDS		N	Y	N	N	N
SAMS		N	Y	N	N	N
SPLICE		N	N	N	N	N
* SUB FUNCTION: BATCH INPUTS FROM						
CHANGE NOTICE		Y	N	Y	Y	Y
ASI		P	Y	Y	N	Y
COSAL		Y	N	Y	N	Y
AVCAL		Y	N	N	Y	N
TARSLL		Y	N	N	N	N
FILL		Y	N	N	N	N
FAADC TAPES	SFOEDL	N	N	N	N	N
FAADC TAPES	C&H	Y	N	N	N	N
FAADC TAPES	OTHER	N	N	N	N	N
RRTMIS		N	N	N	N	N
E38		Y	N	N	Y	N
ICP DEMAND		N	N	N	N	N
CYCLIC ASSET		N	N	N	N	N
* SUB FUNCTION: BATCH INPUTS TO						
RRIMIS		Y	N	N	N	N
CYCLIS ASSET		Y	N	N	N	N
PMO		Y	N	N	N	N
PARENT TENDER		Y	N	N	N	N
* SUB FUNCTION: BATCH INPUTS TO/FROM						
SNAP II		Y	P	N	N	Y
SUB FUNCTION: ON-LINE INTERFACES						
SUADPS		Y	N	N	Y	N

APPLICATIONS FOUND IN V IOUS AFLOAT BUSINESS SYSTEMS

APPLICATION	CATEGORY	SUADPS	SFM	OMMS	NALCOMIS	ILM
** BUSINESS FUNCTION: FINANCIAL						
* SUB FUNCTION: OM,N						
SHIP'S GRANT ACCOMMODATION		Y	Y	N	N	N
DEPARTMENTAL BUDGET MANAGEMENT		Y	Y	N	N	N
SHORE LIST PROCESSING	SFOEDL/AUOL	P	Y	N	N	N
TRANSMITTALS ASHORE	BOR/TL	Y	Y	N	N	N
PROJECT ACCOUNTING		N	N	N	N	N
BUDGET FORECASTING		N	P	N	N	N
BUDGET EXECUTION GRAPHICS		N	N	N	N	N
REPORT OF CREDITS		Y	N	N	N	N
ROV AVAILABILITY COST REPORT		Y	N	N	N	N
FLIGHT HOUR ACCOUNTING		P	N	N	N	N
* SUB FUNCTION: NAVY STOCK FUND						
TRANSMITTAL OF NSF DETAIL ASHORE		Y	N	N	N	N
FAADC RECONCILIATION DATA PROCESSING		Y	Y	N	N	N
SAC 224 PROCESSING		N	N	N	N	N
* SUB FUNCTION: OTHER ACCOUNTING						
OPN ACCOUNTING		N	Y	N	N	N
SCN ACCOUNTING		N	N	N	N	N
TOB ACCOUNTING		N	N	N	N	N
SHIP'S STORE ACCOUNTING		N	N	N	N	N

APPLICATIONS FOUND IN VARIOUS AFLOAT BUSINESS SYSTEMS

APPLICATION	CATEGORY	SUADPS	SFM	OMMS	NALCOMIS	ILM
** BUSINESS FUNCTION: I-LEVEL MAINT SUPPORT						
* SUB FUNCTION: COMPONENT CONTROL						
INDUCTIONS		N	N	N	Y	N
REPAIR AND RETURN		P	N	N	Y	N
CANNIBALIZATIONS/PAYBACKS		N	N	N	Y	N
CONDITION CODE TRANSFERS		N	N	N	N	N
E1 MANAGEMENT		N	N	N	Y	N
RFI RETURN		Y	N	N	Y	N
NRFI RETURN		Y	Y	N	Y	N
FLR MANAGEMENT		P	Y	N	Y	N
2M MANAGEMENT		N	Y	N	N	N
AWP MANAGEMENT		N	N	N	Y	N
MAINTENANCE ACTION REPORTING		Y	N	N	Y	N

APPLICATIONS FOUND IN VARIOUS AFLOAT BUSINESS SYSTEMS

APPLICATION	CATEGORY		SUADPS	SFM	OMMS	NALCOMIS	ILM
** BUSINESS FUNCTION: INVENTORY							
* SUB FUNCTION: MAINTAIN DATA							
UPDATE MANAGEMENT DATA			Y	Y	Y	Y	Y
MAINTAIN INVENTORY BALANCE BY LOCATION			N	Y	N	N	Y
MAINTAIN INVENTORY BY OTHER VARIABLES		BY LOT	N	N	N	N	N
MAINTAIN INVENTORY BY OTHER VARIABLES		CONTRACT NUMBER	N	N	N	Y	N
MAINTAIN INVENTORY BY OTHER VARIABLES		SHELF LIFE EXPIRATION	N	Y	N	N	N
* SUB FUNCTION: MANAGE STOCK LISTS							
DEMAND HISTORY COLLECTION			Y	Y	N	P	N
LEVEL SETTING			Y	Y	N	N	N
REPLENISH			Y	Y	N	Y	Y
EXCESS MANAGEMENT			Y	Y	N	N	Y
* SUB FUNCTION: VALIDITY FUNCTIONS							
PHYSICAL INVENTORY			Y	Y	N	Y	Y
RECONCILIATION			P	Y	N	Y	Y
CAUSATIVE RESEARCH			P	N	N	Y	Y
ADJUSTMENTS			Y	Y	N	N.	Y
* SUB FUNCTION: SPECIAL INVENTORIES							
SEAMART			P	N	N	N	N
FUEL			P	N	N	N	N
SHELF LIFE MATERIAL			Y	Y	N	N	N
SUSPENDED MATERIAL			N	Y	N	Y	N
GAS AND CYLINDERS			P	Y	N	N	N
HAZMAT			P	Y	N	N	Y
Q COSAL MATERIAL			y	Y	N	N	Y
DLRS			Y	Y	N	Y	Y
LEVEL I/SUBSAFE			P	N	N	N	N
NUKE WATER CHEMICALS			P	N	N	N	N
AMMUNITION			N	N	N	N	N
LOCAL ROTABLE POOL ASSETS			N	N	N	Y	N
EQUIPAGE		MHE	N	N	N	N	Y
EQUIPAGE	CONTROLLED	EQUIPAGE	N	Y	N	N	N
EQUIPAGE	OTHER	CRITICAL	N	Y	N	N	N
MAMS			N	Y	N	N	Y
OSI/RSS			N	Y	N	N	Y
GPETE/SPETE	CALlBRATION	LAB	N	Y	N	P	N
PROVISIONS			y	N	N	N	N
SHIPS STORE 1Q COG MATERIAL			y	Y	N	N	N
PRE-EXPENDED BIN MATERIAL			Y	N	N	Y	N
OUTBOUND PACKUP			Y	N	N	Y	N
INBOUND PACKUP			Y	N	N	Y	N

APPLICATIONS FOUND IN VARIOUS AFLOAT BUSINESS SYSTEMS

APPLICATION	CATEGORY	SUADPS	SFM	OMMS	NALCOMIS	ILM
STRATEGIC WEAPONS MATERIAL						

APPLICATIONS FOUND IN VARIOUS AFLOAT BUSINESS SYSTEMS

APPLICATION	CATEGORY	SUADPS	SFM	OMMS	NALCOMIS	ILM
** BUSINESS FUNCTION: PERFORMANCE MONITORING						
* SUB FUNCTION: INVENTORY						
DEMAND EFFECTIVENESS		Y	Y	N	P	N
ALLOWANCE EFFECTIVENESS		Y	Y	N	Y	N
UMMIPS PERFORMANCE		Y	N	N	P	N
RANGE/DEPTH ACCURACY		Y	Y	N	Y	N
INVENTORY ACCURACY		Y	Y	N	N	N
CAUSATIVE RESEARCH RESULTS		N	N	N	N	N
* SUB FUNCTION: FINANCIAL						
NSF STATUS		P	Y	N	N	N
BUDGET EXECUTION		N	Y	N	N	N
ADJUSTMENT MEASUREMENT		N	Y	N	N	N
* SUB FUNCTION: WORKLOAD						
ACTION PROCESS TIME		N	N	N	Y	N
AVG CUSTOMER WAIT TIME		N	N	N	Y	N
EXCEPTION MEASUREMENT		N	N	N	N	N
ENDURANCE		N	N	N	N	N
PERSONAL WORKLOAD		N	N	N	N	N
PERSONAL PRODUCTIVITY		N	N	N	N	N
QA PROGRAM		N	N	N	N	N
SUB FUNCTION: PHYSICAL DISTRIBUTION						
RRTMIS		N	N	N	N	N
PROCESS CONTROL		N	N	N	N	N

APPLICATIONS FOUND IN VARIOUS AFLOAT BUSINESS SYSTEMS

APPLICATION	CATEGORY	SUADPS	SFM	OMMS	NALCOMIS	ILM
** BUSINESS FUNCTION: PHYSICAL DISTRIBUTION						
* SUB FUNCTION: INBOUND MATERIAL						
RECEIPT IN PROCESS		Y	Y	N	Y	Y
CHARACTERISTICS						
RECEIPT IN PROCESS	LOT SIZE	N	N	N	N	Y
CHARACTERISTICS						
RECEIPT IN PROCESS	CONT CT	N	N	N	Y	Y
CHARACTERISTICS	NUMBER					
RECEIPT IN PROCESS	PACK ATE	N	N	N	N	Y
CHARACTERISTICS						
RECEIPT IN PROCESS	SHELF LIFE	N	N	N	N	Y
CHARACTERISTICS						
RECEIPT IN PROCESS		N	N	N	N	Y
CHARACTERISTICS						
RECEIPT IN PROCESS	CUBE	N	N	N	N	Y
CHARACTERISTICS						
RECEIPT IN PROCESS	DESTINATION	N	Y	N	N	N
CHARACTERISTICS						
STAGING FOR TURNOVER		N	Y	N	N	N
STAGING FOR STOW		N	Y	N	N	Y
STOW	CLEAN	N	Y	N	N	Y
STOW		N	Y	N	N	N
PROOF OF DELIVERY		N	Y	N	Y	N
* SUB FUNCTION: STOREROOM MGMT						
STOWAGE PLAN		N	N	N	N	N
LOCATION CHARACTERISTICS	SIZE	N	Y	N	N	N
LOCATION CHARACTERISTICS	SECURITY	N	N	N	N	N
LOCATION CHARACTERISTICS	WEIGH LIMITS	N	N	N	N	N
LOCATION CHARACTERISTICS	CUBE LIMITS	N	N	N	N	N
LOCATION CHARACTERISTICS	TYPE MATERIAL	N	Y	N	N	N
LOCATION CHARACTERISTICS	MATL COMPATIBILITY	N	Y	N	N	N
RESTOWAGE		N	Y	N	N	N
LABELLING	MATERIAL INFO	Y	Y	N	N	Y
LABELLING	STOW CATION	Y	Y	N	N	Y

APPLICATIONS FOUND IN VARIOUS AFLOAT BUSINESS SYSTEMS

APPLICATION		SUADPS	SFM	OMMS	NALCOMIS	ILM
* SUB FUNCTION: OUTBOUND MATERIAL						
PICK		Y	N	N	Y	N
STAGE		P	N	N	N	N
PREPARE DOCUMENTATION		Y	N	N	Y	N
PACK/CRATE		N	N	N	N	N
RETROGRADE HANDLING		Y	N	N	Y	N
PROOF OF SHIPMENT		N	Y	N	N	N
TRANSHIPMENTS		N	Y	N	N	N
ENGINEERING INVESTIGATIONS		N	N	N	Y	N
TURN-INS	MTIS	Y	Y	N	Y	Y
TURN-INS	SUPPLY CENTER	Y	Y	N	N	Y
TURN-INS	DRMO	Y	Y	N	N	N
TURN-INS	DLRS	Y	Y	N	Y	N
* SUB FUNCTION: PLANNING						
WORKLOAD SCHEDULING		P	N	Y	Y	N
PHYSICAL CONSTRAINTS		N	N	N	N	N
T-SHED BACKLOAD MANAGEMENT		N	N	N	N	N
UNREP PLANNING	PROVISIONS	Y	N	N	N	N
UNREP PLANNING	BULK	Y	N	N	N	N
UNREP PLANNING	BIN	Y	N	N	N	N
UNREP PLANNING	TURNOVER	Y	N	N	N	N

Enclosure (2)

TYPE COMMANDER SUADPS FUNCTIONAL EVALUATION

BUSINESS FUNCTION:
SUB FUNCTION:
APPLICATION:
CATEGORY:

90 sheets total one for each Y under SUADPS in enclosure (1)

EVALUATOR: _____

COMMAND/CODE/TELEPHONE: _____

		NO			YES
1.a.	Is this application necessary?	1	2	3	4
1.b.	If 2, 3, 4, why? (rank in order of importance: A, B, C, D) Needed for supply officer or staff decision making: ____ Needed for customer decision making or information: ____ Needed for internal process control: ____ Needed for external reporting: ____ Needed for internal higher management reporting: ____				
2.	Is this application easy to use?	1	2	3	4
3.	Do operators have to "trick" the system to get this application to work? If 2, 3, or 4 explain:	1	2	3	4
3.	Is OJT sufficient training for operators to become proficient in the use of this application?	1	2	3	4
4.	Is "Shiprider" assistance necessary to successfully use this application?	1	2	3	4
5.	Are clear instructions available on how to use this application?	1	2	3	4
6.	Do problems frequently occur using this application? If 2, 3, or 4, explain:	1	2	3	4
7.	Does this application provide sufficient information? If 1, 2, or 3, explain what is missing.	1	2	3	4
8.	Should this business application be done ashore? If 3 or 4, explain how:	1	2	3	4
9.	What improvements would you suggest for any aspect of this application?	1	2	3	4

Enclosure (3)

TYPE COMMANDER SUADPS FUNCTIONAL NEEDS ASSESSMENT

BUSINESS FUNCTION:
SUB FUNCTION:
APPLICATION:
CATEGORY:

108 sheets total one for each N under SUADPS in enclosure (1)

EVALUATOR: _____

COMMAND/CODE/TELEPHONE: _____

THIS APPLICATION IS NOT IN SUADPS BUT MAY BE PLANNED FOR A LATER RELEASE PLEASE ANSWER THE FOLLOWING QUESTIONS:

1.a. Should this application be automated in SUADPS? NO 1 2 3 YES 4

1.b. If 2, 3, 4, why? (rank in order of importance: A, B, C, D)
- Needed for supply officer or staff decision making: ____
- Needed for customer decision making or information: ____
- Needed for internal process control: ____
- Needed for external reporting: ____
- Needed for internal higher management reporting: ____

2. What information should this application provide?

3. In what form should the information be provided?

4. Is this application now performed manually? 1 2 3 4

4.a. If 3 or 4, what skill level is needed to accomplish the task?

Officer _____ CPO _____ LPO _____ PO _____ SN _____

4.b. If 3 or 4, how often is this application accomplished?

Deployed:
Annually _____ Monthly ____ Weekly ____ Daily ____

In home port:
Annually _____ Monthly ____ Weekly ____ Daily ____

During Availabilities:
Annually _____ Monthly ____ Weekly ____ Daily ____

5. Has this application been automated with the use of locally developed software?

SUADPS MANAGEMENT REPORTS ANALYSIS

TYCOM: EVALUATOR:

DI FUNCTION	REPORT FULL NAME	USE CODE	FREQUENCY OF USE CODE	VALUE (HIGH) (MEDIUM) (LOW)
	REQUISITION FILE PRINT			
	ISSUE PENDING FILE (REPORT 2)			
008	SAMMA/SAL			
008	SAMMA/SAL PART 1 TOTAL DETAIL			
008	SAMMA/SAL PART 2 DOLLAR VALUE BY AT CODE			
008	SAMMA/SAL PART 3 NSA DETAIL REPORT			
008	SAMMA/SAL PART 4 APA PONT OF SAL DETAIL			
008	SAMMA/SAL PART 5 INVENTORY MANAGEMENT			
009	COSAL APL ANALYSIS (USID C & M)			
009	COSAL PERCENTAGE (USID A, B, T)			
009	COSAL PERCENTAGE (USID C AND M)			
009	AVCAL RIC ANALYSIS			
009	AVCAL PERCENTAGE			
011	MASTER STOCK STATUS			
015	OPTAR HISTORY FILE PROCESSING REPORT			
036	ISSUES OF CONTROLLED DRUG SUBSTANCES			
044	PMO DEMAND REPORT			
051	EXCESSIVE LOCATIONS LISTING			
051	LOCATION AUDIT LISTING			
051	MAIL ON HAND - NO LOCATION			
051	MSP MATERIAL - ERRONEOUS LOCATION LISTING			
051	QUANTITY VALIDATION (PART ONE)			
051	QUANTITY VALIDATION (PART TWO)			
054	DLR PRINT REPORT			

USE CODES: RE REQUIRED EXTERNAL; RI REQUIRED INTERNAL; IM INTERNAL MANAGEMENT

FREQUENCY CODES: D DAILY; W WEEKLY; M MONTHLY; Q QUARTERLY; Y YEARLY; A AS REQUIRED

1

SUADPS MANAGEMENT REPORTS ANALYSIS

TYCOM: EVALUATOR:

DI FUNCTION	REPORT FULL NAME	USE CODE	FREQUENCY OF USE CODE	VALUE (HIGH) (MEDIUM) (LOW)
056	MATERIAL OBLIGATION VALIDATION OPTION 1			
056	MATERIAL OBLIGATION VALIDATION OPTION 2			
056	MATERIAL OBLIGATION VALIDATION OPTION 3			
056	MATERIAL OBLIGATION VALIDATION OPTION 4			
056	MATERIAL OBLIGATION VALIDATION OPTION 5			
056	MATERIAL OBLIGATION VALIDATION OPTION 6			
056	MATERIAL OBLIGATION VALIDATION OPTION 7			
057	DEMAND REPORTING			
058	DEPOT LEVEL REPAIRABLE CARCASS TRACKING			
060	CONSOLIDATED PACKUP LISTING			
061	REQN RESPONSE TIME MIS			
062	UMMIPS PERFORMANCE REPORT			
064	QUARTERLY ASSET REPORT			
064	TYCOM REPORT			
065	EXTENDED MONEY VALUE OF DIO REQUISITIONS			
071	DIO DUES WITH MATERIAL ON HAND			
072	AUTOMATIC FOLLOW-UP READY FOR RELEASE			
073	DEMAND HISTORY PROCESSING REPORT			
074	DEMAND TAPE ONE-LINE			
080	MASTER STOCK STATUS AND LOCATOR LISTING			
083	OFFLOAD BY EXTENDED MONEY VALUE			
084	INVENTORY PROGRESS REPORT			
084	POTENTIAL GAINS AND LOSSES BY INVENTORY			
090M	EMF RECORD DELETE			
090R	REQUISITION PRINTOUT			

USE CODES: RE REQUIRED EXTERNAL
RI REQUIRED INTERNAL
IM INTERNAL MANAGEMENT

FREQUENCY CODES: D DAILY W WEEKLY M MONTHLY Q QUARTERLY Y YEARLY A AS REQUIRED

SUADPS MANAGEMENT REPORTS ANALYSIS

TYCOM: EVALUATOR:

DI FUNCTION	REPORT FULL NAME	USE CODE	FREQUENCY OF USE CODE	VALUE (HIGH) (MEDIUM) (LOW)
091	SURFACE MAINTENANCE DATA SYSTEM REPORTING			
093	GROUP CANCELLATION REQUEST			
094	RECEIPT IN PROGRESS			
096	AVIATION MAINTENANCE DATA SYSTEM REPORTING			
100	COMMANDING OFFICER'S BUDGET (REPORT 21)			
100	DEPARTMENT BUDGET (REPORT 21)			
100	DIVISION BUDGET (REPORT 21)			
100	INVENTORY ADJUSTMENT REPORT			
100	REPORT 03 FINANCIAL INVENTORY REPORT			
100	REPORT 04 MONTHLY RECEIPT REPORT			
100	REPORT 04 MONTHLY RECEIPTS REPORT			
100	REPORT 05 MONTHLY TRANSFER TO DISPOSAL			
100	REPORT 05 OSO TRANSFER			
100	REPORT 06 NC 2074 CHARGES			
100	REPORT 07/08 NAVCOMPT 176 NSA ROV A&B SUM			
100	REPORT 09 NAVCOMPT FORM 2051			
100	REPORT 10 SUPPLY EFFECTIVENESS REPORT			
100	REPORT 20 UNFILLED ORDER SUMMARY			
100	REPORT 22 OBLIGATED/EXPENDED DIFFERENCES			
100	REPORT 23 PRIOR FISCAL YEAR TRANSACTION			
100	REPORT 24 MSG REPORT OF CREDITS			
100	REPORT 26 FLIGHT OPS BUDGET OPTAR			
100	REPORT 28 AFM BUDGET OPTAR			
100	REPORT 34 INVENTORY ADJUSTMENT REPORT			
100	REPORT 41 SUPPORT UNITS BOR			

USE CODES: RE REQUIRED EXTERNAL
RI REQUIRED INTERNAL
IM INTERNAL MANAGEMENT

FREQUENCY CODES: D DAILY W WEEKLY
M MONTHLY Q QUARTERLY
Y YEARLY A AS REQUIRED

SUADPS MANAGEMENT REPORTS ANALYSIS

TYCOM: EVALUATOR:

DI FUNCTION	REPORT FULL NAME	USE CODE	FREQUENCY OF USE CODE	VALUE (HIGH) (MEDIUM) (LOW)
100	REPORT 42 REIMBURSABLE BUDGET OPTAR			
100	REPORT 46 ROV AVAILABILITY COST REPORT			
100	REPORT 47 SUPPLIES AND EQUIPAGE BOR			
100	REPORT 49 USID B AND T			
100	SAC 207 REPORTS			
100	STOCK ASSET DOLLAR VALUE EXTENSION			
100	SUMMARY FIELD ORDER/EXPENDING DIFF LIST			
100	SUPPORTED UNITS BOR MSG			
101	FIXED ALLOWANCE MANAGEMENT REVIEW REPORT			
CRH	CUM RECEIPT FILE PROCESSING REPORT			
CTL	FINANCIAL TRANSACTION LEDGER			
CTL	MATERIAL TRANSACTION REPORT			
CTL	QCOSAL TRANSACTION REPORT			
CTL	REQUISITION TRANSACTION LEDGER			
FBM	POLARIS/POSEIDON MMS REPORT			
MVT	MASTER VALIDATION TABLE PRINTOUT			
OSO	CUMULATIVE OSO FILE PROCESSING REPORT			
OSTAR	ORDER AND SHIP TIME ANALYSIS			
REC	BATCH RECEIPT			
RFH	CUM FISCAL YR TO DATE RECEIPT LISTING			
SSP	SUSPENDED TRANSACTION			
SUNCOR	SUMMARIZATION OF UNAUTHORIZED ON ORDER			
SUNCOR	CANCELLED STOCK ITEMS OVER 30 DAYS			
SUNCOR	CANDIDATES FOR PARTIAL/FULL CANCELLATION			

USE CODES: RE REQUIRED EXTERNAL
RI REQUIRED INTERNAL
IM INTERNAL MANAGEMENT

FREQUENCY CODES: D DAILY W WEEKLY M MONTHLY Q QUARTERLY Y YEARLY A AS REQUIRED

SUADPS MANAGEMENT REPORTS ANALYSIS

TYCOM: EVALUATOR:

DI FUNCTION	REPORT FULL NAME	USE CODE	FREQUENCY OF USE CODE	VALUE (HIGH) (MEDIUM) (LOW)
UNMEX	CARCASS DETAIL REPORT			
UNMEX	ADJUSTED CANCELLATIONS			
UNMEX	UNMATCHED CAPTIONS C, H AND J			
UNMEX	UNMATCHED EXPENDITURE			
UNMEX	UNMATCHED EXPENDITURE ADJ SUMMARY			
UNMEX	UNMEX PROCESSING SUMMARY			
UTILITY	AMI TRANSFER REPORT			
UTILITY	ISSUE PENDING FILE (REPORT 3)			
X43	SURVEY REPORT			
X43	QCOSAL SURVEY REPORT			
X49	MAINTAINING CURRENCY OF APPROPRIATING DATA			
X84	POTENTIAL GAIN/LOSS FROM SCHED INVENTORY			
X84	BATCH ERROR REPORT			
20C	REQUISITIONS REQUIRING LOCAL PROCUREMENT			
20C	TRANSACTIONS RELEASED TO PARENT TENDER			
20C	TRANSACTIONS RELEASED FROM SUPPLY			

USE CODES: RE REQUIRED EXTERNAL
RI REQUIRED INTERNAL
IM INTERNAL MANAGEMENT

FREQUENCY CODES: D DAILY W WEEKLY
M MONTHLY Q QUARTERLY
Y YEARLY A AS REQUIRED

APPENDIX B

This document is a collection of the cover letters sent in response to survey in appendix A.

DEPARTMENT OF THE NAVY
COMMANDER SUBMARINE FORCE
U S ATLANTIC FLEET
NORFOLK VIRGINIA 23511-5230

4400
Ser
N514/6
374
08 JUL
1991

From: Commander Submarine Force, U.S. Atlantic Fleet
To: Commander, Naval Supply Systems Command (Code 0332)

Subj: SNAP II SUPPLY AND FINANCIAL MANAGEMENT SYSTEM FUNCTIONAL
ASSESSMENT

Ref: (a) Commander, Naval Supply Systems 4400 Ser 0332 of 24 May 1991

Encl: (1) Type Commander SNAP II SFM Functional Evaluation
(2) Type Commander SNAP II SFM Functional Needs Assessment
(3) Type Commander SNAP II SFM Reports Critique

1. In response to reference (a), enclosures (1) through (3) are forwarded. Some of the forms in the enclosures were left blank due to the ambiguous nature of the application or sub-function description. We would be happy to comment if the ambiguities can be clarified.

2. Our position remains that of supporting and improving the current SNAP II software found in SFM, as well as the Maintenance Data Subsystem (MDS), rather than creating entirely new software. Although the current software is not without it's problems, we feel that incremental change is the only realistic approach to solving them.

3. My point of contact is SKCS(SS) E. Bures, Code N514, AUTOVON 564-6783 or Commercial (804) 444-6781.

D.N.DOYLE
By direction

Copy to: (w/o encls)
CINCLANTFLT (N4)
NAVMASSO (01)
NAVSEA (04-TD)
NAVSEA (PMS-331)

DEPARTMENT OF THE NAVY
COMMANDER NAVAL SURFACE FORCE
UNITED STATES PACIFIC FLEET
SAN DIEGO, CALIFORNIA 92155-5035

4400
Ser N7/7469
15 AUG !99]

From: Commander, Naval Surface Force, U. S. Pacific Fleet
To: Commander, Naval Supply Systems Command

Subj SNAP II SUPPLY AND FINANCIAL MANAGEMENT SYSTEM FUNCTIONAL ASSESSMENT

Ref: (a) COMNAVSUPSYSCOM ltr 0332 4400 of 24 May 1991

Encl: (1) SNAP II Supply and Financial Management Reports Analysis
(2) Type Commander SNAP II Supply and Financial Functional Evaluation
(3) Type Commander SNAP II Supply and Financial Functional Needs Assessment
(4) Concept of Operations

1. Pursuant to agreements made during the April 1991 Functional Policy Council, reference (a) provided a matrix of afloat business system applications for review. In addition, reference (a) forwarded questionnaires in regard to each business application now included in the current 5.10 release, for those not now automated in SFM 5.10, and with regard to SNAP II Supply and Financial Management Reports. As requested by reference (a), enclosures (1), (2), and (3) have been completed and are returned.

2. Enclosures (1), (2), and (3) were reviewed and completed by members of COMNAVSURFPAC's Supply Maintenance Mobile Training Team (SMTT), all experts in shipboard/staff applications of SNAP II SFM and MDS. SMTT comments are reflected in pencil on each questionnaire. Having developed their expertise in the shipboard environment, the comments provided in pencil on enclosures (I), (2), and (3) are necessarily bounded by existing SNAP II SFM/MDS environmental constraints.

3. Subsequent to SMTT review and comment, the enclosures (2) and (3) questionnaires were subjected to a second review at the COMNAVSURFPAC management (0-5/0-6) level. The intent of this second review was to explore business application development, taking into consideration environmental constraints redefined by technological advances including, for example, analog and/or digitized data transmission via satellite. In such environment, the opportunities for ships becoming Transaction Item Reporting (TIR) activities are significant. Enclosure (4) provides the applicable concept of operations. Through such advances considerable workload can be moved ashore to pierside support activities while continuing only those functions aboard ship that directly contribute to shipboard combat capability. Those

applications which have potential for being moved ashore through the TIR concept have been appropriately annotated in red ink for consideration in future development.

4. COMNAVSURFPAC Point of Contact is LT S. Smith, SC, USN, Code 714/SMTT, A/V 526-5789/commercial. (619) 556-5789 or CAPT R. Gunderson, SC, USN, N7, A/V 577-2410/commercial (619) 437-2410.

R. H. GUNDERSON
By direction

Copy to:
CINCPACFLT (41)

TIR CONCEPT OF OPERATIONS

The concept of operations proposed in paragraph three of the basic letter incorporates satellite communications technology to move workload ashore and reduce inventory investment afloat. A basic outline of the concept is provided as follows:

- The SNAP II SFM file as it exists aboard ship today will be moved ashore to the Pierside Support Activity. The ship will be furnished with an automated inventory/location file showing minimal data elements to include NSN, Nomenclature, On Hand balance, and location;

- The ship will transmit transaction item reports via satellite communications at scheduled times to the Pierside Support Activity. Data will include receipt and issue transactions, DTO requisitions, and responses to specific Pierside Support Activity data inquiry (e . g., location/count inventory directives, etc.) transactions previously transmitted to the ship via satellite communications.

- The Pierside Support Activity will maintain the ship's SNAP II SFM data base, generate all financial reports/listings, run levels, generate reorders/replenishment requisitions, process ship DTO requisitions into the supply system, and otherwise dialogue with the shore supply and finance establishment in resolving issues. The ship will be responsible for issuing material from its storerooms and receiving material into its storerooms, and TIR'ing such transactions to the Pierside Support Activity via satellite communications. Transactions/adjustments to shipboard inventory/location file will be accomplished by TIR from the Pierside Support Activity via satellite communications.

- Shipboard issues, receipts, and directed inventories would be accomplished using barcode scanning equipment, storing all transactions for automatic download to communications equipment and transmission via communications satellite.

Using existing technology, this concept of operations significantly simplifies the afloat storekeepers daily workload, reducing it to one of receiving, issuing, inventorying as directed, and transmitting data. Workload reductions afloat would be used to realign manpower to staff Pierside Support Activities. Total visibility of assets afloat would also provide significant opportunity for inventory investment savings afloat (e. g., insurance items need no longer be stocked in every COSAL but perhaps in only one COSAL of ships operating in close proximity.)

While the above addresses the shipboard repair part/general stores SFM function, it has equal applicability to the food service/provisions, ships store, personnel, and disbursing functions as well as to various Maintenance Data System functions.

DEPARTMENT OF THE NAVY
COMMANDER NAVAL SURFACE FORCE
UNITED STATES ATLANTIC FLEET
NORFOLK, VIRGINIA 23511-5215

4000
Ser N752/63410
8 JUL 1991

From: Commander, Naval Surface Force, U.S. Atlantic Fleet
To: Commander, Naval Supply Systems Command

Subj: SNAP II SUPPLY AND FINANCIAL MANAGEMENT SYSTEM (SFM) FUNCTIONAL ASSESSMENT

Ref: (a) COMNAVSUPSYSCOM ltr 0332 44400 of 24 May 91

Encl: (1) Type Commander SNAP II SFM Functional Evaluation
(2) Type Commander SNAP II SFM Functional Needs Assessment
(3) Type Commander SNAP II SFM Reports Critique

1. In accordance with reference (a), enclosures (1) through (3) are submitted to assist in completing the functional assessment of SNAP Material Management Systems for future afloat use.

2. COMNAVSURFLANT point of contact SKCS(SW) McGourn, N7521, commercial (804) 444-5816, AUTOVON 564-5816.

J. W. FREEMAN, JR.
By direction

DEPARTMENT OF THE NAVY
COMMANDER SUBMARINE FORCE
UNITED STATES PACIFIC FLEET
PEARL HARBOR, HI 96860-6550

4400
Ser 5121/005008
24 JUL 1991

From: Commander Submarine Force, U.S. Pacific Fleet
To: Commander, Naval Supply Systems Command (033)

Subj: SNAP II SUPPLY AND FINANCIAL MANAGEMENT SYSTEM FUNCTIONAL ASSESSMENT

Ref: (a) COMNAVSUPSYSCOM ltr Ser 0332-4400 of 24 May 91

Encl: (1) SNAP II Supply and Financial Management Reports Analysis
(2) Type Commander SNAP II Supply and Financial Functional Evaluation

1. The functional assessment enclosed in reference (a) has been reviewed and is returned with requested responses as enclosures (1) and (2).

2. COMSUBPAC point of contact is LT Dana Ivey (Code 5121) who may be reached at A/V 471-8111 or COML (808) 471-0464/9034.

D. R. LENGKEEK
By direction

DEPARTMENT OF THE NAVY
COMMANDER NAVAL SURFACE FORCE
UNITED STATES PACIFIC FLEET
SAN DIEGO, CALIFORNIA 92155-5035

4400
Ser 713/7059
30 JUL 1991

From: Commander, Naval Surface Force, U.S. Pacific Fleet
To: Commander, Naval Supply Systems Command

Subj: SUADPS RELEASE 3 FUNCTIONAL ASSESSMENT

Ref: (a) COMNAVSUPSYSCOM ltr 0332 4400 of 24 May 91

Encl: (1) Type Commander SUADPS Functional Evaluation
(2) Type Commander SUADPS Functional Needs Assessment
(3) Type Commander SUADPS Reports Critique

I. The SUADPS Functional Evaluations, Needs Assessments, and Report Critiques forwarded by reference (a) were reviewed in depth by five COMNAVSURFPAC evaluators, representing over 70 years of SUADPS experience. Enclosures (1) through (3) are a consolidated input, based on the evaluators' review.

2. In general, the evaluators found this functional assessment process to be difficult, at best. Also, the evaluators found that a significant number of applications which are identified as currently being available in SUADPS are, in fact, not available. The reverse situation was also found to exist. The fact that our evaluators could not reach the same conclusion as NAVMASSO as to whether or not an application is available in SUADPS, supports our finding that it is difficult to interpret the meaning of the functions and applications. In short, any conclusions drawn from this study must be viewed with caution. The following comments apply:

a. Numerous business functions and/or applications could not be interpreted as to their actual meaning;

b. Functions and applications as stated, often duplicated or overlapped other applications; and

c. Many of the business applications "considered necessary" for modern afloat supply operations are defined in terms of current SUADPS terminology and are questionable "required" applications. (Example: Validation Tables, Local Constants, Counters.) These applications are required in our current system design, but may be unnecessary in a redesigned system with different goals and objectives.

3. Interestingly, the evaluation shows that individually, many of the SUADPS applications work as advertised. But as evidenced from our operational experience, there are numerous problems when these inter-related applications are combined. There is no synergy in the current process. This is due in part to the complexity of Navy Stock Fund financial reporting requirements and the computer programming required in SUADPS to support this

effort. This, coupled with the level of knowledge required to understand and manage this system are the root of our problems. We must simplify, simplify, simplify!

As stated numerous times in the past, to simplify the process we must use today's technology and link afloat data bases with shore-based systems to utilize the synergistic effect of shared information. No one is debating the fact that there are obviously good ideas in SUADPS, OMMS, IMMS/MRMS, and SNAP II SFM/MDS, along with other shipboard AIS's. But, as agreed upon at the January 1987 MMAIP, a zero based redesign is the only way we can get away from making an overly complex system even more complex by applying bandaids to continually correct system deficiencies. Acknowledging that we have already embarked on one grandiose zero based redesign effort which failed because of it's own weight and that the chance of starting another zero based redesign to achieve an optimal solution is unlikely, than we have to do something to help people better understand the system in place. To do this, we ought to capitalize on the effort that has already gone into the zero based redesign and list the information that people have already identified as being the information they want to derive. Then a matrix can be constructed showing the desired information product on the left and the existing business functions on the right which can be utilized to provide the desired information. Business functions that do not contribute to a specific desired information product should be candidates for elimination. The resulting business functions can then be evaluated to see if they can be simplified or if the burden of using them exceeds the value of the information derived. In this way, the business functions can be evaluated in context of the role they play in the overall system. To try to evaluate the business functions as stand alone entities is confusing to all concerned and can lead to a lack of coordination and agreement on how to interpret the questions and therefore to a data base of answers which may be seriously misinterpreted.

5. COMNAVSURFPAC point of contact is CDR C. A. Toledo, SC, USN, Code 713, or CAPT G. Locke, USMC, Code 713A at AUTOVON 526-5748 or commercial (619) 556-5748.

K. W. LIBBY
By direction

UNITED STATES MARINE CORPS
2d MARINE AIRCRAFT WING, FMF, ATLANTIC
MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA 28533-6001

IN REPLY REFER TO

4400
ALD/srf
15 Jul 1991

From: Commanding General, Second Marine Aircraft Wing
To: Command~, Naval Supply System Command (0332), Washington, DC 20376-5000

Subj: SUADPS RELEASE 3 FUNCTIONAL ASSESSMENT RESPONSE

Ref: Commander, Naval Supply Systems Command, 0332 over 4400 dated 24 May 1551

Encl: (1) Type Commander SUADPS Functional Evaluation
(2) Type Commander SUADPS Functional Needs Assessment
(3) Type Commander SUADPS Reports Critique

1. As requested, the enclosures have been reviewed and annotated.

2. Please note that this package was reviewed from a Marine aviation logistics perspective which includes both NALCOMIS and SUADPS-RT processing systems. The on-line help function in NALCOMIS is a very valuable tool. This function does not exist in SUADPS-RT but should be implemented in any follow-on system.

3. 2d MAW POC: CWO-2 S. Foster, ALD-L, Av: 582-5111/3933.

M. C. SKIPPER
By direction

Copy to:
CMC (ASL-32)

DEPARTMENT OF THE NAVY
COMMANDER NAVAL AIR FORCE
UNITED STATES PACIFIC FLEET
NAVAL AIR STATION, NORTH ISLAND
SAN DIEGO, CALIFORNIA 92135-5100

4400
Ser 453/6561
06 AUG 1991

From: Commander Naval Air Force, U.S. Pacific Fleet
To: Commander, Naval Supply Systems Command

Subj: SUADPS RELEASE 3 FUNCTIONAL ASSESSMENT

Ref: (a) COMNAVSUPSYSCOM ltr 0332 4400 of 24 May 91

Encl: (1) Type Commander SUADPS Functional Evaluation
(2) Type Commander SUADPS Functional Needs Assessment
(3) Type Commander SUADPS Reports Critique

1. The SUADPS products forwarded by reference (a) have been reviewed and are being returned as enclosures (I) through (3). The following comments apply:

a. Many of the business functions and/or applications were not understood by anyone on this staff; the package was reviewed by two Senior and two Master Chief Petty Officers, a GS-12 Financial Analyst, a Lieutenant (former stock control officer) and two former SUADPS experienced Limited Duty Officers, one was a Lieutenant Commander with 31 years experience and the second was a Lieutenant with 27 years experience. The difficulty of developing a comprehensive and explicit functional evaluation for a baseline review of our current business applications is appreciated, however the one or two word descriptions provided for the function, sub-function and application titles were much too general in nature resulting in a lot of confusion about what function actually was being analyzed.

b. Functions and applications were frequently either duplicated or contained within other applications.

c. Many of the applications do not appear to be related to SUADPS Release 3 or any other management system of the future which will replace Release 3 (e.g. SAMS, ADMIN and Ship's Store Returns). The fact that these applications are performed aboard ships does not make them viable candidates for inclusion in a mainframe computer Supply and Financial Management System of the future cannot and should not be an all inclusive AIS containing every conceivable function performed aboard ships. Not only should some of those functions be properly accomplished manually, but also those functions that are stand alone and can be performed on a micro-computer system should remain on micro computers.

2. The objective of any future inventory/financial management system should be to enable the shipboard storekeeper to concentrate his efforts on accurate receipt, issue and inventory

control procedures and not have to worry whether the appropriation data for another ship he has just made a transfer to is contained in validation tables. Those financial applications can and should be performed ashore with existing technology used to communicate to the shore facility what material transactions have occurred.

3. The tremendous effort put into developing this baseline review is obvious; the validity of the results are certain to be suspect given the ambiguities of the functional descriptions. Informal conversations with COMNAVSURFPAC and COMNAVAIRLANT have expressed the same concern and frustration of attempting to design software by mail. A working level (one or two experts per TYCOM and CDA) conference to review the results and clear up any lingering concerns to be the next step in this process.

4. COMNAVAIRPAC point of contact is CDR R. A. Boyd, Code 45 or LT E. S. Walters, Code 453 at AUTOVON 735-1020 or Commercial (619) 545-1020.

R. A. BOYD
By direction

DEPARTMENT OF THE NAVY
COMMANDER SUBMARINE FORCE
U.S, ATLANTIC FLEET
NORFOLK, VIRGINIA 23511-5230

4400
Ser N531/2153
16 AUG 1991

From: Commander Submarine Force, U.S. Atlantic Fleet Commander,
To: Commander, Naval Supply Systems Command (SUP 033)

Subj: SUADPS RELEASE 3 FUNCTIONAL ASSESSMENT

Ref: (a) NAVSUP ltr Ser 0332/4400 of 24 May 91

Encl: (1) Type Commander SUADPS Functional Evaluation
(2) Type Commander SUADPS Functional Needs Assessment
(3) Type Commander SUADPS Reports Critique

1. As requested by reference (a), enclosures (1) through (3) are forwarded.

2. Request COMSUBLANT be provided with summary results of the Type Commanders SUADPS Functional Assessment no later than 30 September 1991.

T. O. DUFFEY
By direction

DEPARTMENT OF THE NAVY
COMMANDER SUBMARINE FORCE
UNITED STATES PACIFIC FLEET
PEARL HARBOR, HI 96860-6550

4400
Ser 5113/004436
27 JUN 1991

From: Commander Submarine Force, U.S. Pacific Fleet
To: Commander, Naval Supply Systems Command

Subj: SUADPS RELEASE 3 FUNCTIONAL ASSESSMENT

Ref: (a) COMNAVSUPSYSCOM ltr Ser 0332-4400 of 24 May 91

Encl: (1) Applications Found in Various Afloat Business Systems Questionnaires and Type Commander SUADPS Functional Evaluations

1. The functional assessment enclosed in reference (a) has been reviewed and is returned as enclosure (1).

2. COMSUBPAC point of contact is LT Jim Barnard (Code 5113), who may be reached at A/V 471-8111 or COML (808) 471-0464/474-5538.

D. R. LENGKEEK
By direction

DEPARTMENT OF THE NAVY

COMMANDER NAVAL SURFACE FORCE
UNITED STATES ATLANTIC FLEET
NORFOLK, VIRGINIA 23511-5215

4400
Ser N72/09579
8 AUG 1991

From: Commander, Naval Surface Force, U.S. Atlantic Fleet
To: Commander, Naval Supply Systems Command (Code 0332)

Subj: SUADPS-RT REL 3.0 FUNCTIONAL ASSESSMENT

Ref: (a) COMNAVSUPSYSCOM 0332 4400 of 24 May 91

Encl: (I) Response Matrix
(2) SUADPS Functional Evaluation Work Sheets
(3) SUADPS Functional Needs Assessment Work Sheets
(4) SUADPS Reports Critique

1. As requested by reference (a), enclosures (1) through (4) are forwarded as input to the,'comprehensive evaluation of SUADPS.

2. The Response Matrix, enclosure (1), is provided as a summary sheet of responses to key questions as viewed from the TYCOM's perspective. Note that the column addressed as: (1) Non-applicable (N/A) contains responses to functionality not intended for SUADPS processing and (2) Insufficient Information contains responses to functionality that lacked sufficient descriptive information to clearly determine its intended purpose or processing goals.

3. My point of contact for further information is LT D. Lendle (N723), AUTOVON 564-5882 or commercial (804) 444-5882. FAX number is (804) 445-2236.

J. E. COOK
By direction

ENCLOSURE (1)

CNSL RESPONSE MATRIX

(1) TYCOM FUNCTIONAL EVALUATION;

		1	2	3	4	N/A	INSUFFICENT INFORMATION
		NO			YES		
QUESTION	IA	2	0	1	61	13	14
	2	2	7	5	48	15	14
	8	61	0	0	1	15	14

(2) TYCOM FUNCTIONAL NEEDS:

		1	2	3	4	N/A	INSUFFICENT INFORMATION
		NO			YES		
QUESTION	1.A	74	0	0	15	3	I1
	4	5	1	3	7	75	12

ENCL (I)

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